



Complete Summary

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TITLE

Ischemic heart disease: percent of patients hospitalized with acute coronary syndrome (ACS) found to be ST-segment elevation myocardial infarction (STEMI) patients who met criteria for reperfusion and received thrombolytic therapy within 30 minutes of acute arrival or electrocardiogram (ECG) if acute myocardial infarction (AMI) as inpatient (inpatient AMI all cohort [inclusive of JCAHO AMI]).

SOURCE(S)

Office of Quality and Performance (10Q). FY 2005 VHA executive career field network director performance measurement system and JCAHO hospital core measures. Technical manual. Washington (DC): Veterans Health Administration (VHA); 2005 Mar 9. 244 p.

Brief Abstract

DESCRIPTION

This measure assesses the percent of patients hospitalized with acute coronary syndrome (ACS) found to be ST-segment elevation myocardial infarction (STEMI) patients who met criteria for reperfusion and received thrombolytic therapy within 30 minutes of acute arrival or electrocardiogram (ECG) if acute myocardial infarction (AMI) as inpatient.

RATIONALE

Reperfusion, either by thrombolytic treatment or percutaneous transluminal coronary angioplasty (PTCA)/primary percutaneous coronary intervention (PCI), may help to open the occluded coronary artery, restore blood flow, limit infarct size, and reduce mortality in appropriate candidates. Among acute myocardial infarction (AMI) patients with ST elevation or left bundle branch block (LBBB) (STEMI), the effect of reperfusion depends on timing of the therapy. The sooner after the onset of symptoms the therapy is administered, the better the effect. For thrombolysis, numbers needed to treat (NNT) to save one life is 33 in the first 6 hours and 50 in the time window 6 to 12 hours. The effect may be even better with PCI. After 12 hours, the reperfusion is ineffective.

For the non-ST-segment elevation myocardial infarction (NSTEMI) patients, several trials indicate that an early invasive approach is effective in intermediate- and high-risk patients, while a more conservative approach is indicated in those

without electrocardiogram (ECG) changes and enzyme elevations. Additionally, while reperfusion through PTCA/PCI may be appropriate for NSTEMI troponin positive patients, thrombolytic therapy is always contraindicated.

PRIMARY CLINICAL COMPONENT

Ischemic heart disease; acute coronary syndrome (ACS); ST-segment elevation myocardial infarction (STEMI); reperfusion; thrombolysis

DENOMINATOR DESCRIPTION

Patients from the Inpatient AMI All cohort (inclusive of JCAHO AMI) hospitalized with acute coronary syndrome (ACS) found to be ST-segment elevation myocardial infarction (STEMI) who met criteria for reperfusion and received thrombolytic therapy (see the related "Denominator Inclusions/Exclusions" field in the Complete Summary)

NUMERATOR DESCRIPTION

The number of patients from the denominator who received thrombolytic therapy within 30 minutes of acute arrival or electrocardiogram (ECG) or first positive troponin if acute myocardial infarction (AMI) as inpatient (see the related "Numerator Inclusions/Exclusions" field in the Complete Summary)

Evidence Supporting the Measure

PRIMARY MEASURE DOMAIN

Process

SECONDARY MEASURE DOMAIN

Not applicable

EVIDENCE SUPPORTING THE MEASURE

A clinical practice guideline or other peer-reviewed synthesis of the clinical evidence

One or more research studies published in a National Library of Medicine (NLM) indexed, peer-reviewed journal

NATIONAL GUIDELINE CLEARINGHOUSE LINK

- [ACC/AHA 2002 guideline update for the management of patients with unstable angina and non-ST-segment elevation myocardial infarction. A report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines \(Committee on the Management of Patients With Unstable Angina\).](#)
- [VA/DoD clinical practice guideline for management of ischemic heart disease.](#)

Evidence Supporting Need for the Measure

NEED FOR THE MEASURE

Overall poor quality for the performance measured
Use of this measure to improve performance

EVIDENCE SUPPORTING NEED FOR THE MEASURE

Office of Quality and Performance (10Q). FY 2005 VHA executive career field network director performance measurement system and JCAHO hospital core measures. Technical manual. Washington (DC): Veterans Health Administration (VHA); 2005 Mar 9. 244 p.

State of Use of the Measure

STATE OF USE

Current routine use

CURRENT USE

External oversight/Veterans Health Administration
Internal quality improvement

Application of Measure in its Current Use

CARE SETTING

Hospitals

PROFESSIONALS RESPONSIBLE FOR HEALTH CARE

Physicians

LOWEST LEVEL OF HEALTH CARE DELIVERY ADDRESSED

Single Health Care Delivery Organizations

TARGET POPULATION AGE

Unspecified

TARGET POPULATION GENDER

Either male or female

STRATIFICATION BY VULNERABLE POPULATIONS

Unspecified

Characteristics of the Primary Clinical Component

INCIDENCE/PREVALENCE

Acute coronary syndrome (ACS) is the leading cause of morbidity and mortality among both men and women in the United States, affecting more than 13.9 million people. The acute presentation of ACS is varied, with acute myocardial infarction (AMI) being the most dramatic of presentations. Annually, AMI affects approximately 1.1 million people in the United States. The mortality rate with AMI is approximately 30%. About once every 29 seconds, an American suffers a coronary event, and about every minute, someone dies from one.

EVIDENCE FOR INCIDENCE/PREVALENCE

Office of Quality and Performance (10Q). FY 2005 VHA executive career field network director performance measurement system and JCAHO hospital core measures. Technical manual. Washington (DC): Veterans Health Administration (VHA); 2005 Mar 9. 244 p.

ASSOCIATION WITH VULNERABLE POPULATIONS

Unspecified

BURDEN OF ILLNESS

See "Incidence/Prevalence" field.

UTILIZATION

Unspecified

COSTS

Unspecified

Institute of Medicine National Healthcare Quality Report Categories

IOM CARE NEED

Getting Better

IOM DOMAIN

Effectiveness
Timeliness

CASE FINDING

Users of care only

DESCRIPTION OF CASE FINDING

Patients from the Inpatient Acute Myocardial Infarction (AMI) All cohort (inclusive of JCAHO AMI)*

*Refer to the original measure documentation for patient cohort descriptions.

DENOMINATOR SAMPLING FRAME

Patients associated with provider

DENOMINATOR (INDEX) EVENT

Clinical Condition
Institutionalization
Therapeutic Intervention

DENOMINATOR INCLUSIONS/EXCLUSIONS

Inclusions

Patients from the Inpatient AMI All cohort (inclusive of JCAHO AMI) hospitalized with acute coronary syndrome (ACS) found to be ST-segment elevation myocardial infarction (STEMI) who met criteria for reperfusion and received thrombolytic therapy*

*Note:

Refer to the original measure documentation for patient cohort descriptions.

Thrombolytic Therapy: Restoration of blood flow to occluded coronary artery(ies) pharmacologically by intravenous administration of thrombolytic agent (Also referred to as thrombolysis, thrombolytic treatment)

Exclusions

Documented decision not to treat within 24 hours. The record clearly documents that the patient, patient's family, or legal representative wishes comfort measures only and/or there is agreement that the patient's cardiac condition and co-morbid conditions preclude aggressive treatment. Documentation such as comfort measures only, hospice care, maintain treatment for comfort, terminal care, physician documentation that care is limited at family's request or due to patient's age or chronic illness, palliative care, supportive care only, will cause the patient to be excluded from the measure.

NUMERATOR INCLUSIONS/EXCLUSIONS

Inclusions

The number of patients from the denominator who received thrombolytic therapy within 30 minutes of acute arrival or electrocardiogram (ECG) or first positive troponin if acute myocardial infarction (AMI) as inpatient*

*Note:

Timely Thrombolytic Therapy: Timely is defined as 30 minutes.

- For patients presenting to the facility, 30 minutes is calculated using the variable of acute arrival date and time (or default) and subtracting it from thrombolytic administration date and time.
- For patients already inpatients when they experienced their AMI, 30 minutes is calculated using the variable representing the ECG date and time OR first positive troponin time (whichever is earlier) closest to the event and subtracting it from the thrombolytic administration date and time.

Acute Arrival Time: Defined as the earliest recorded time the patient arrives in the hospital's acute care setting.**

**Refer to the original measure documentation for additional details.

Reperfusion Start Time for AMI as Inpatient: If patient experiences AMI while inpatient, the reperfusion clock begins with the date and time of the first ECG after onset of symptoms indicative of acute coronary syndrome (ACS) while an inpatient OR first positive troponin result whichever is earlier.

Exclusions

- Patients without an ECG done closest to acute hospital arrival OR with no documented interpretation of the ECG done closest to hospital arrival will fail.
- The positive troponin designation (if earlier) signals the clinical need to ascertain ST-segment elevation myocardial infarction (STEMI) status through the performance of an ECG. Therefore if an ECG is missing, the case fails.

DENOMINATOR TIME WINDOW

Time window is a single point in time

NUMERATOR TIME WINDOW

Fixed time period

DATA SOURCE

Administrative and medical records data

LEVEL OF DETERMINATION OF QUALITY

Individual Case

PRE-EXISTING INSTRUMENT USED

Unspecified

Computation of the Measure

SCORING

Rate

INTERPRETATION OF SCORE

Better quality is associated with a higher score

ALLOWANCE FOR PATIENT FACTORS

Unspecified

STANDARD OF COMPARISON

Internal time comparison
Prescriptive standard

PRESCRIPTIVE STANDARD

Fiscal year (FY) 2005 targets for reperfusion thrombolytic therapy in 30 minutes - ST-segment elevation myocardial infarction (STEMI) (Inpatient AMI All cohort [inclusive of JCAHO AMI]):

- Facility Floor: 45%
- Meets Target: 90%
- Exceeds Target: 95%

EVIDENCE FOR PRESCRIPTIVE STANDARD

Office of Quality and Performance (10Q). FY 2005 VHA executive career field network director performance measurement system and JCAHO hospital core measures. Technical manual. Washington (DC): Veterans Health Administration (VHA); 2005 Mar 9. 244 p.

Evaluation of Measure Properties

EXTENT OF MEASURE TESTING

Unspecified

Identifying Information

ORIGINAL TITLE

Ischemic heart disease (IHD): reperfusion thrombolytic therapy in 30 minutes - STEMI.

MEASURE COLLECTION

[Fiscal Year \(FY\) 2005: Veterans Health Administration \(VHA\) Performance Measurement System](#)

MEASURE SET NAME

[Cardiovascular](#)

MEASURE SUBSET NAME

[Ischemic Heart Disease](#)

DEVELOPER

Veterans Health Administration

ADAPTATION

Measure was not adapted from another source.

RELEASE DATE

2003 Nov

REVISION DATE

2005 Mar

MEASURE STATUS

This is the current release of the measure.

SOURCE(S)

Office of Quality and Performance (10Q). FY 2005 VHA executive career field network director performance measurement system and JCAHO hospital core measures. Technical manual. Washington (DC): Veterans Health Administration (VHA); 2005 Mar 9. 244 p.

MEASURE AVAILABILITY

The individual measure, "Ischemic Heart Disease (IHD): Reperfusion Thrombolytic Therapy in 30 Minutes - STEMI," is published in "FY 2005 VHA Performance Measurement System: Technical Manual."

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NQMC STATUS

This NQMC summary was completed by ECRI on November 29, 2004. The information was verified by the measure developer on December 10, 2004.

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The logo for FIRSTGOV, with "FIRST" in blue and "GOV" in red, and a small red star above the "I".

